

Application No. 09/742,720  
Amendment dated July 13, 2004  
Reply to Office Action dated April 13, 2004  
Express Mail EV406652125US

### Remarks/Arguments

The Office Action dated April 13, 2004, has been noted, and its contents carefully studied. In light of the above amendments to the claims, and the following remarks, reconsideration of the rejection under 35 U.S.C. §102 and/or §103, is courteously requested.

In order to facilitate the Examiner's reconsideration, a brief discussion of the invention is presented herein. More specifically, the invention relates to a system and method of interprocess communications for increasing data transfer performance by bypassing connection oriented protocol, all within interprocess communication facilities which are sockets for clients and servers, and wherein each interprocess communication facility has connection oriented protocol (COP) associated therewith.

In accordance with the invention, when a communication between a client and a server is initiated, it is first determined if a client is on the same system as the server. An interprocess communications facility connection is established between the server and the client. When the client is on the same system as the server, pointers in the interprocess communication facility connection are set for bypassing the associated connection oriented protocol (COP) so that data is transferred directly between the client and the server bypassing the connection oriented protocol. It is important to appreciate that the same interprocess communications facility is used to bypass the connection oriented protocol, and there is no migration to a separate and distinct interprocess communications facility. In more specific aspects, if errors are detected in the data transferring step, the pointers are set to null and data is transferred between the client and the server through the conventional connection oriented protocol. In a yet more specific aspect, it is determined if the server interprocess communications facility and the client interprocess communications facility within the same system are compatible and if not, then data transfer occurs via the conventional connection oriented protocol.

Similar aspects of the invention are recited in system claims 9-16 as discussed previously.

It is respectfully urged that the claimed invention is not anticipated by or obvious from the cited references under 35 U.S.C. §102 and/or §103, as will become more clearly evident from

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the following detailed discussion of the references presented herein for the Examiner's kind consideration.

U.S. Patent No. 5,682,534 to Kapoor et al.

U.S. Patent No. 5,682,534 to Kapoor et al. (hereinafter "Kapoor") discloses a method for managing communication between a client process and a server process in a distribution environment. In accordance with Kapoor, when a client process makes a remote procedure call, it first detects whether a server process identified by the remote procedure call is located on the host computer. If so, a binding handle vector is returned to the client process. The protocol sequence in the binding handle is then mapped to a second protocol sequence that establishes an interprocess communication path between the client and server processes.

In this regard, it is important to appreciate that a separate local RPC is established as part of the operating system of the same host machine, such that the communication is migrated from the original interprocess communications facility to a separate and dedicated RPC mechanism. This is different from Applicants' claimed invention, as now clarified in the claims wherein the interprocess communications facilities are defined as being sockets having connection oriented protocol associated therewith. In the event the client is on the same system as the server, pointers in the interprocess communication facility connection are set for bypassing the connection oriented protocol associated therewith, such that data is transferred directly between the client and the server bypassing the connection oriented protocol. In contrast, Kapoor is like the discussion of the prior art where high performance is achieved by setting pointers directly between socket connections that do not use connection oriented protocol, i.e., which are separate from the interprocess communications facilities which are sockets.

Paragraph 7 of Applicants' specification discusses UNIX-domain sockets as being an example of such a configuration wherein UNIX-domain sockets move data directly between the client socket and the server socket without any protocol overhead. However, in such an environment, each client or application must be individually coded to use the socket so configured, and, as a practical matter most applications have been coded to use connection oriented protocols over a computer network. Therefore, although UNIX-domain sockets provide

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better performance for local data transferred, UNIX-domain sockets and similar like socket protocols do not provide for data transfer for both local and remote clients. It is important to appreciate that Kapoor teaches moving to a different protocol as opposed to staying within the same protocol and simply bypassing the connection oriented protocol.

Accordingly, the Examiner's attention is invited to column 2, lines 50, *et seq.* of Kapoor wherein it is explicitly stated that "the system therein uses an RPC mechanism to affect a local RPC", which is an RPC made between two processes that are running on the same host machine. In one particular embodiment, the RPC mechanism is a UNIX-domain socket, and Kapoor uses a connection-oriented sequence to open such sockets. Kapoor does not stay with the protocol associated with the COP and simply bypass the COP. It migrates to a different connection path and protocol.

With respect to claims 2 and 10, the section cited by the Examiner merely calls for checking for the special case where the end point is a pointer to a zero length string (as opposed to null). This does not disclose anything about the server and the client being further configured for setting pointers to null which controls the type of connection established.

Regarding claims 3, 11 and 13, what Kapoor teaches in the section cited at column 3 is that when the host computer supports a UNIX-based operating system, the method responds to the RPC by detecting whether the server process and the client process are located on the same host computer. If so, the method returns to the client process a binding handle having a protocol sequence normally associated with the remote procedure call. The protocol sequence associated with the remote procedure call is typically either a connection-oriented protocol or a connection-less protocol. The protocol sequence is then mapped into an alternate protocol sequence that establishes an interprocess communication path between the client process and server process. This has nothing to do with setting pointers to null if errors are detected.

In conclusion, Kapoor teaches nothing more than the conventional prior art approach when a separate set of socket connections are established within a common host for a client and a server which is separate and independent from the single interprocess communications facilities of Applicants' claims. Specifically, Kapoor requires setting two separate and distinct

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interprocess communications facilities, one of which is completely independent and does not include a connection oriented protocol.

U.S. Patent No. 5,926,636 to Lam et al.

U.S. Patent No. 5,926,636 to Lam et al. (hereinafter "Lam") adds nothing to the teachings of Kapoor. More specifically, Lam teaches, for example, at column 6, lines 13-15 that the server component management API reads a field in the message to determine whether an addressing format of the client computer is compatible with an addressing format of the server computer, i.e. separate computers and not on the same host. If the addressing formats are not compatible, then the server component management application programming interface converts the message to an addressing format compatible with the server computer. This is different from Applicants' claimed invention wherein if the server and client interprocess communications facilities are incompatible, then data is transferred between the client and server via a conventional connection oriented protocol connection. There is no conversion and rather the conventional connection via connection oriented protocol is allowed to occur. Thus, it is respectfully urged that Lam adds nothing to the teachings of Kapoor and is inapplicable to the claims against which it has been applied.


The remaining cited references which have not been applied have been reviewed and are not believed to be any more pertinent to the claimed invention than the previously discussed references. Thus, for the sake of brevity they will not be discussed further herein.

For the foregoing reasons, it is respectfully urged that the claimed invention, particularly as the claims are now amended, is clearly patentable under 35 U.S.C. §102 and/or §103 over the cited references. Accordingly, it is respectfully urged that the application be passed to issuance. Nonetheless, should the Examiner still have any comments, questions or suggestions of a nature necessary to expedite the prosecution of the application or to place the case in condition for allowance, he is courteously requested to telephone the undersigned at the number listed below.

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Respectfully submitted,

  
A. José Cortina, Reg. No. 29,733

Daniels Daniels & Verdonik, P.A.  
P.O. Drawer 12218  
Research Triangle Park, NC 27709  
Voice 919.544.5444  
Fax 919.544.5920  
Email jcortina@d2vlaw.com

Enclosures

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